Claim Amendments

1. (previously presented) A method for use in a stored program controlled system comprising a plurality of processing units and a signal generator for interconnecting processing units using time division multiplexing over a free space optical beam line, said method including the steps of:

generating at the signal generator a common clock signal and distributing the common clock signal over the free space optical beam line to all processing units;

generating, at the signal generator based on said clock signal, a common synchronization signal and distributing the common synchronization signal over the free space optical beam line to all processing units;

maintaining in each processing unit, at least one timeslot counter synchronized to the clock signal and to the common synchronization signal;

generating at the signal generator a message pattern containing a processing unit address and corresponding timeslot map data, and distributing the message pattern over the free space optical beam line to all processing units;

maintaining in each processing unit, a timeslot map based on the received timeslot map data associated with the address of the processing unit;

deriving an enable signal from the contents of the timeslot map to enable transmission of data into the beam line; and

deriving an enable signal from the contents of the timeslot maps to enable one or more receivers to extract data from the beam line.

2. (previously presented) A method in accordance with claim 1 wherein said signal generator includes a timeslot sync signal generator and each processing unit includes a timeslot sync pattern detector, said method further including the steps of:

generating a timeslot sync signal;

sending said timeslot sync signal to each of said processing units;

receiving said timeslot sync signal at each of said sync pattern detectors; and

synchronizing said enable signal in each of said processing units.

3. (previously presented) A method in accordance with claim 1 wherein said signal generator includes a frame sync pattern generator and each processing unit includes a frame sync pattern detector, said method further including the steps of:
generating a frame sync pattern;
sending said frame sync pattern to each of said processing units;
receiving said frame sync pattern at each of said frame sync pattern detectors, and
synchronizing said timeslot counter in each of said processing units.

4. Cancel.

5. (original) A method in accordance with claim 1 wherein each processing unit includes a geographic address input, said method further including the step of initializing and maintaining said timeslot maps using said geographic address input.

6. (original) A method in accordance with claim 1 wherein each of said processing units includes a transmit queue, said step of enabling transmission of data into the beam line comprising delivering data to the beam line from said transmit queue.

7. (original) A method in accordance with claim 1 wherein each of said processing units includes a receive queue, said step of enabling extraction of data from the beam line comprising receiving data from the beam line in said receive queue.

8. (previously presented) A method in accordance with claim 1 wherein said step of enabling one or more receivers comprising enabling a plurality of receivers to simultaneous receive signals creating multicast channels.

9. (original) A method in accordance with claim 1 wherein said signal generator includes guard band logic, said method further including the step of periodically inserting guard bands into said beam line.

10. (original) A method in accordance with claim 1 further including the step of updating said timeslot mapping to provide dynamic load balancing.

11. (previously presented) A method in accordance with claim 1 wherein said time slot mapping